

## Link Between STD Infection and HIV Transmission Warns of New HIV Prevention Challenges

Significant, sustained reductions in HIV-related mortality due to the widespread use of highly active antiretroviral therapy may present dramatically new HIV prevention challenges. As persons infected with HIV experience better overall health status, they may be returning to unsafe sexual behaviors. Mounting evidence indicates that infection with ulcerative and inflammatory bacterial STDs<sup>1</sup> measurably increases a person's risk of becoming infected with or transmitting HIV.

This evidence highlights the public health importance of integrating HIV/AIDS and STD surveillance data and using these data to more precisely target increasingly scarce prevention resources. To this end, the Department of Health conducted a study to determine prevalence of co-infection with HIV/AIDS and STDs and

identify the demographic and geographic characteristics of the study population.

Researchers used statistical methods to match Washington State STD<sup>2</sup> and HIV/AIDS registries for 1992–2001. The algorithm uses elements of first and last name, date of birth, and gender to match records across both registries, including coded HIV records as provided for under Washington State Administrative Code authorizing asymptomatic HIV reporting<sup>3</sup>. The analysis looked at rates of co-infection by specific STD and explored demographic and geographic factors significantly associated with HIV/STD co-infection.

### Study Findings

Matching results showed that 1702 of the persons reported with HIV/AIDS also had at least one episode of STD morbidity

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## Routine Screening Urged for Domestic Violence During Pregnancy

Domestic violence against women during or around the time of pregnancy can have serious health consequences for a woman and her family. Approximately 6% of childbearing women surveyed in Washington State in 2000 reported experiencing physical violence by a husband or partner around the time of pregnancy (12 months prior to pregnancy through three months postpartum). An estimated 5200 women statewide are affected annually.

Nevertheless, many providers do not even discuss domestic violence with their patients. Approximately 40% of childbearing women reported in the 2000 survey that their prenatal care provider had talked to them about the issue of physical abuse. Encouragingly, this percentage has in-

creased from approximately 30% in 1996, according to data from the Washington State Pregnancy Risk Assessment Monitoring System (PRAMS).

Each woman was also asked to report on the PRAMS whether her prenatal care provider specifically asked if someone was hurting her emotionally or physically. An estimated 51% of the respondents reported that their provider screened them for domestic violence. Table 1 indicates that providers screen less for domestic violence than for other health-risk factors measured.

The Washington State Department of Health's Office of Maternal and Child Health (OMCH) recommends the following action steps for providers working with pregnant

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## HIV-STD Infection *(from page 1)*

(either before or subsequent to earliest documented date of HIV infection<sup>4</sup>) between 1992 and 2001. In this group, 713 persons had a reported 1108 episodes of STD morbidity subsequent to their earliest documented date of HIV infection.

The prevalence of HIV infection among all reported STD cases increased during the study period from less than 0.2% in 1992 to 1% in 2001 (Figure 1). Gonorrhea was the most commonly reported STD among HIV-infected individuals, followed by chlamydia and all states of syphilis infection (Figure 2). Adjusting of data for age, race, age, sex, and geographic region showed that infectious syphilis (primary, secondary, and early latent infection) and gonorrhea were most strongly associated with HIV co-infection, especially for more recently reported cases of STD infection (Table 1).

The statistical analysis also explored the characteristics of STD cases associated with HIV-positive status at the time of STD diagnosis. Data were adjusted for age at diagnosis, race, sex, King County vs. non-King County residence, and specific STD diagnosis. Males, urban residents, American Indians, whites or Hispanics, those over 29 years of age at diagnosis, and those with a history of multiple episodes of STDs were

**TABLE 1: STDs associated with current HIV infection, Washington State, 1996–2001**

STD Reported (N = 103,461)	Odds Ratio (HIV+ vs HIV-)	95% CI
Infectious syphilis	57.86	45.5 – 73.6
Gonorrhea	6.82	5.93 – 7.84
Other STDs*	0.08	0.07 – 0.10

P < 0.001, \*chlamydia, NGU, PID, late syphilis

most likely to be co-infected with HIV. The analysis also determined that those at increased risk of STD diagnosis subsequent to HIV infection included males having sex with males (MSM), MSM who also inject drugs, non-whites, and persons infected with HIV when younger than age 40.

### Implications of Findings

These findings provide a clear biologic marker — infection with bacterial STDs — for increasing sexual risk-taking among HIV-positive individuals. One finding of particular note is that the prevalence of HIV among STD cases is highest among persons aged 30–39, in contrast to the age peak of 15–24 years for all STDs reported. Persons in this older age group, especially MSM, are likely to have had multiple exposures to HIV prevention messages and to have some knowledge of the consequences of HIV infection prior to the use of highly active antiretroviral therapy. This finding suggests that increases in sexual risk-taking among HIV-positive persons may be the result of treatment optimism and prevention fatigue rather than lack of prevention education.

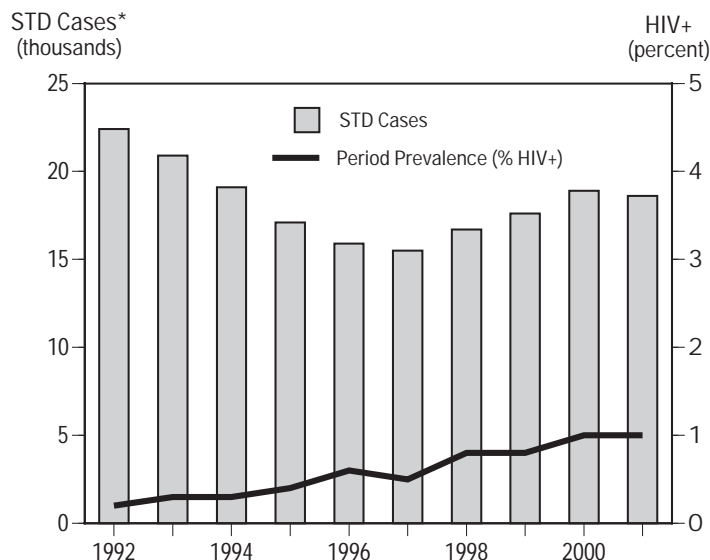
### Footnotes

1. Fleming DT, Wasserheit JN: From epidemiological synergy to public health policy and practice: The contribution of other sexually transmitted diseases to sexual transmission of HIV infection. *Sexually Transmitted Infections*, 75(1):3–17, 1999.
2. Reportable STDs include chlamydia, gonorrhea, all stages of syphilis infection, initial infection with HSV2, acute PID, chancroid, lymphogranuloma venereum, and granuloma inguinale.
3. Washington State Administrative Code 246-101.
4. Earliest date of HIV infection documented in surveillance records is based on provider reports and may not reflect actual date of HIV infection. The earliest date of infection for an AIDS case is the same as date of AIDS diagnosis if no earlier date of infection is documented.

### For More Information

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**FIGURE 1: Prevalence of HIV infection among reported STD Cases in Washington State, 1992–2001**



\*N = 190,874; includes all reportable STDs

# Monthly Surveillance Data by County

October 2002\* – Washington State Department of Health

County	E. coli O157:H7	Salmonella	Shigella	Hepatitis A	Hepatitis B	Non-A, Non-B Hepatitis	Meningococcal Disease	Pertussis	Tuberculosis	Chlamydia	Gonorrhea	AIDS	Pesticides†	Lead\$#
Adams	0	0	0	0	0	0	0	0	0	2	0	0	0	0/15
Asotin	0	0	1	0	0	0	0	0	0	6	0	0	0	0/0
Benton	1	1	1	0	0	0	0	0	0	27	1	0	0	0/0
Chelan	0	8	0	0	0	0	0	0	0	6	0	0	0	0/41
Clallam	0	1	0	0	0	0	0	0	0	22	0	0	0	0/5
Clark	2	3	1	0	0	0	0	0	0	110	18	7	0	0/17
Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Cowlitz	1	0	0	0	0	0	0	0	1	7	1	0	0	0/36
Douglas	0	4	0	0	0	0	0	0	0	4	0	0	0	0/0
Ferry	0	0	0	0	0	0	0	0	0	1	0	0	0	0/0
Franklin	0	0	0	0	0	0	0	0	0	11	0	1	1	0/82
Garfield	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Grant	0	0	0	0	0	0	0	0	0	12	0	0	0	2/52
Grays Harbor	0	1	0	0	0	0	0	0	0	12	0	0	0	0/#
Island	0	1	0	0	0	0	0	0	0	19	3	0	0	0/7
Jefferson	0	0	0	0	0	0	0	0	0	4	0	0	0	0/0
King	6	26	15	2	3	3	1	16	13	516	136	14	4	2/43
Kitsap	1	0	0	1	0	0	0	0	1	69	9	0	0	0/7
Kittitas	0	1	0	0	0	0	0	0	0	9	0	0	2	0/0
Klickitat	0	0	0	0	0	0	0	0	0	4	0	0	0	0/0
Lewis	0	0	0	1	0	0	0	0	0	13	1	0	0	0/#
Lincoln	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Mason	0	1	0	1	0	0	0	1	0	8	0	0	1	0/0
Okanogan	0	0	0	0	0	0	0	0	0	19	1	0	4	0/22
Pacific	0	0	0	0	0	0	1	0	0	3	0	0	0	0/0
Pend Oreille	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Pierce	2	13	4	2	0	0	3	4	2	248	63	1	1	0/21
San Juan	0	0	0	0	0	0	0	0	0	1	1	0	0	0/0
Skagit	0	4	0	0	0	0	1	2	0	17	2	0	2	0/33
Skamania	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Snohomish	6	7	2	0	0	1	0	1	1	121	13	0	0	0/10
Spokane	0	2	0	0	1	0	0	0	1	68	4	0	0	0/29
Stevens	0	0	0	0	0	0	0	0	0	3	0	0	0	0/0
Thurston	0	0	0	0	0	0	0	0	0	56	7	0	0	0/0
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0	0	0	0/#
Walla Walla	1	1	0	0	0	0	0	0	0	17	0	0	1	3/44
Whatcom	0	0	0	0	0	0	0	3	1	30	6	1	0	1/13
Whitman	0	0	0	0	0	0	0	0	0	13	0	0	0	0/#
Yakima	0	1	0	0	0	0	0	0	0	72	6	0	5	1/48
Unknown														0/0

Current Month	20	75	24	7	4	4	6	27	20	1532	272	24	22	9/531
October 2001	27	55	31	22	14	3	4	9	19	1335	306	48	18	9/295
2002 to date	132	457	141	141	60	21	57	391	202	12408	2429	393	258	155/6384
2001 to date	114	455	183	127	124	20	59	134	202	11530	2563	431	195	102/3654

\* Data are provisional based on reports received as of October 31, unless otherwise noted.

† Unconfirmed reports of illness associated with pesticide exposure.

\$# Number of elevated tests (data include unconfirmed reports) / total tests performed (not number of children tested); number of tests per county indicates county of health care provider, not county of residence for children tested; # means fewer than 5 tests performed, number omitted for confidentiality reasons.



## WWW Access Tips

For more information about Washington PRAMS, visit the DOH web site at <http://www.doh.wa.gov/cfh/prams/>

### For More Information

For more information about domestic violence, contact: the Washington State Department of Health at 253-395-6739. For more information about PRAMS, see the web site listed in Access Tips or e-mail: [WAPRAMS@doh.wa.gov](mailto:WAPRAMS@doh.wa.gov)

### epiTRENDS online

[http://www.doh.wa.gov/Publicat/EpiTrends/01-02\\_EpiTrends/2002\\_trend.htm](http://www.doh.wa.gov/Publicat/EpiTrends/01-02_EpiTrends/2002_trend.htm)

## Domestic Violence *(from page 1)*

women in primary health settings and First Steps Programs:

- Screen all pregnant women every trimester and postpartum using the Physicians Insurance Prenatal Record Questions on Domestic Violence.
- Screen all women privately with no partners, children, or relatives present.
- Refer women who report domestic violence to resources and programs as part of a safety plan.
- Maintain and continue to improve skills by seeking training, technical assistance, and intervention assistance from community domestic violence advocates.

The OMCH continues to promote screening for all pregnant and postpartum women. Training materials and a fact sheet are available to help providers develop skills to screen for domestic violence.

PRAMS is part of a Centers for Disease Control and Prevention (CDC) initiative to reduce infant mortality and low birth weight through an ongoing, population-based surveillance system administered by CDC in conjunction with 32 states and New York City. PRAMS supplements data from vital records and generates state-specific data for developing and assessing state maternal and child health programs.

In Washington State, the PRAMS data report on maternal and child health indicators from the survey of mothers who delivered live-born infants. Participants are drawn from birth certificate records through a stratified random sampling based on race,

ethnicity, and geographic region. The response rate for PRAMS in 2000 was 73%.

Washington's OMCH has been collecting PRAMS data since 1993. State public health professionals and policy makers have used the PRAMS data to design and implement interventions and policies to improve the health of mothers and children. PRAMS data have been instrumental in identifying strategies and programs to reduce tobacco use in pregnancy, unintended pregnancy, and domestic violence during pregnancy.

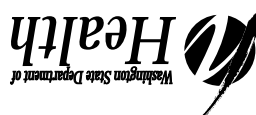
Topics covered in the 2000 survey include health insurance, obesity, low birth weight, folic acid awareness, pregnancy intention and birth control use, prenatal care, breast-feeding, tobacco use and infant exposure to cigarette smoke, alcohol use, illegal drug use, selected maternal risk factors discussed by prenatal health care providers, infant safety, infant sleep position, and stress and support around the time of pregnancy. See the far left column for sources of further information.

**TABLE 1: Reported screening during prenatal care, PRAMS 2000**

	Percent Screened	95% CI
Domestic violence	51	±4
Illegal drug use	68	±3
HIV testing	80	±3
Alcohol use	83	±3
Postpartum birth control	90	±2
Cigarette smoking	91	±2

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epiTRENDS  
P.O. Box 47812  
Olympia, WA 98504-7812



epiTRENDS  
is published monthly by  
the Washington State  
Department of Health.  
Mary C. Selecky  
Secretary  
Maxine Hayes, MD, MPH  
State Health Officer  
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